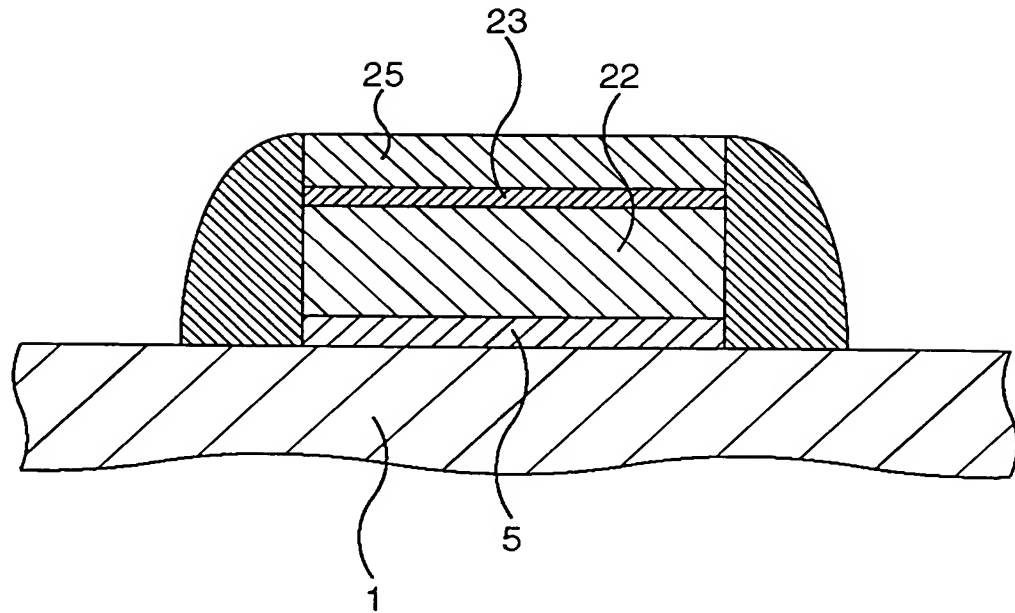


FIG. 1



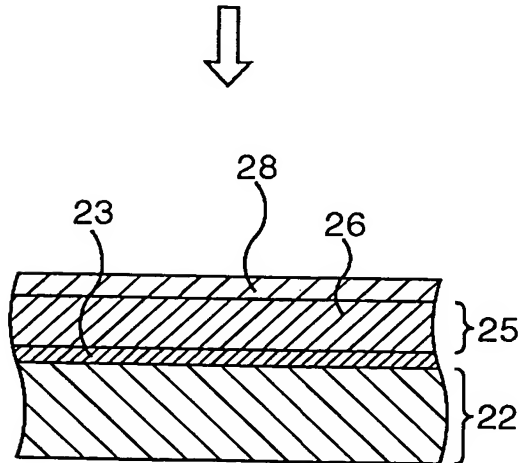
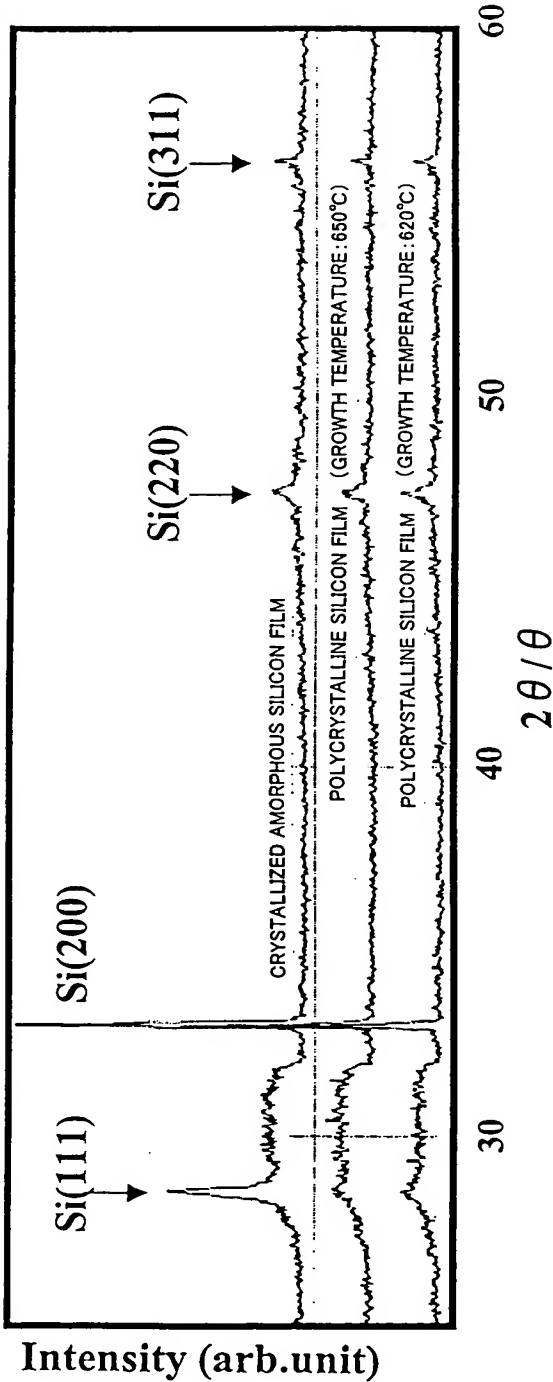


FIG. 3A



<X-RAY DIFFRACTION RESULTS OF VARIOUS SILICON FILMS>

FIG. 3B

BASE SILICON FILM		SILICIDE RESISTANCE VALUE
POLYCRYSTALLINE SILICON FILM		7. 2 (Ω/sq)
AMORPHOUS SILICON FILM	WITHOUT CRYSTALLIZATION	6. 4 (Ω/sq)
	WITH CRYSTALLIZATION	5. 7 (Ω/sq)

<RESISTANCES OF CoSi₂ FOMED ON VARIOUS SILICON FILMS>

This cross-sectional diagram illustrates a semiconductor device composed of two main sections, 100 and 200, which are symmetrically arranged around a central vertical axis. Each section contains a light-emitting element 6. The device is built upon a substrate 1. A p-type layer 2 is formed on the substrate, with a p-type well 3 located beneath the active regions. An n-type layer 4 is positioned above the p-type layer. The light-emitting elements 6 are embedded within the p-type layer 2. Each element 6 consists of a quantum well structure 7, specifically layers 2, 5, 2, 3, and 2 from top to bottom. The elements are electrically connected to a common bus bar 8 via contact pads 8a and 8b. The bus bar 8 is situated between the two sections. The entire structure is covered by a passivation layer 11, which includes a protective layer 11a and a venting hole 11b. The diagram uses various hatching patterns to distinguish different materials and components.

FIG. 5A

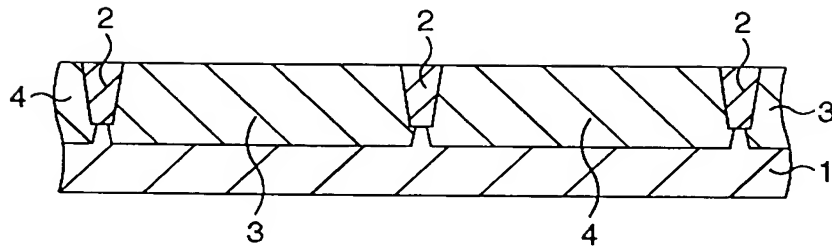


FIG. 5B

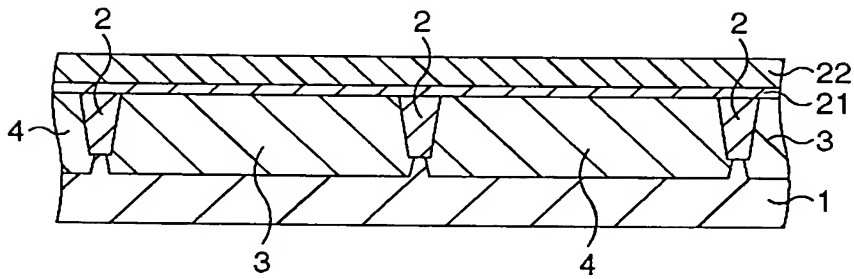


FIG. 5C

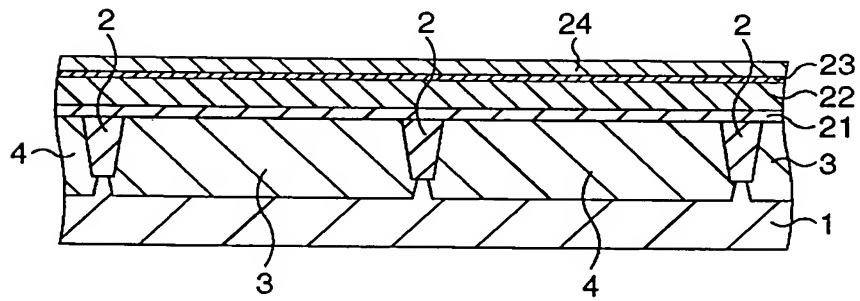


FIG. 5D

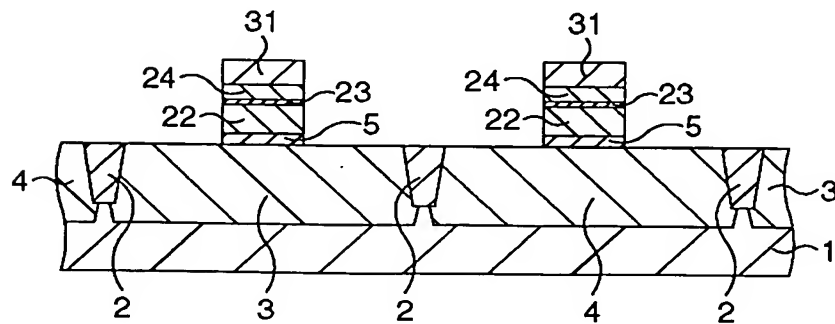


FIG. 6A

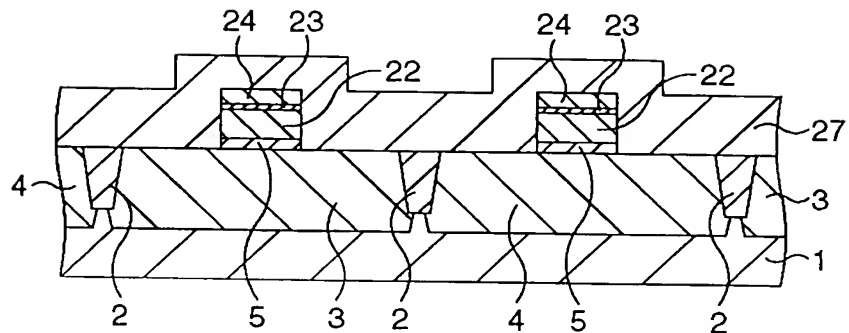


FIG. 6B

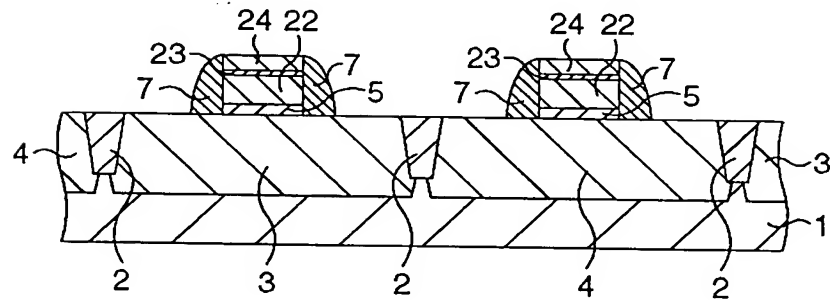


FIG. 6C

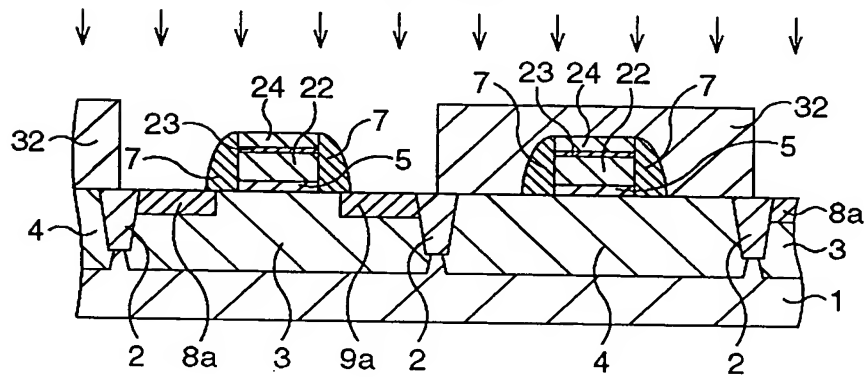
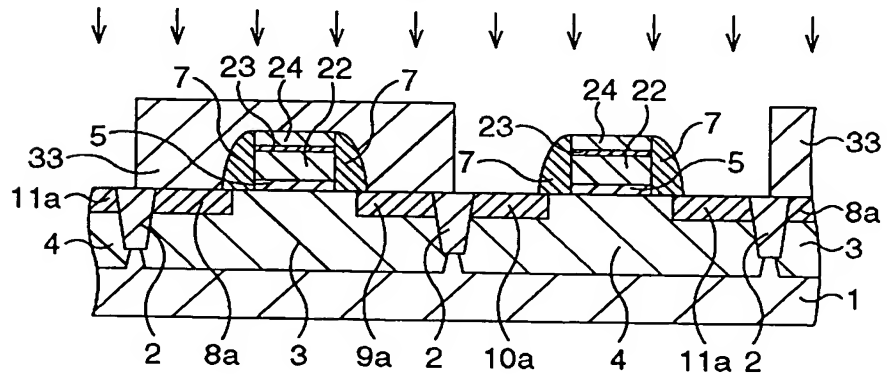


FIG. 6D



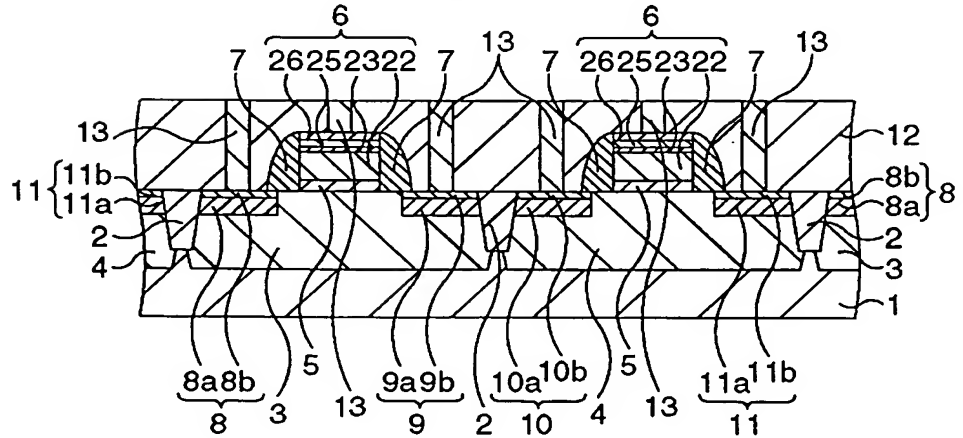


FIG. 10

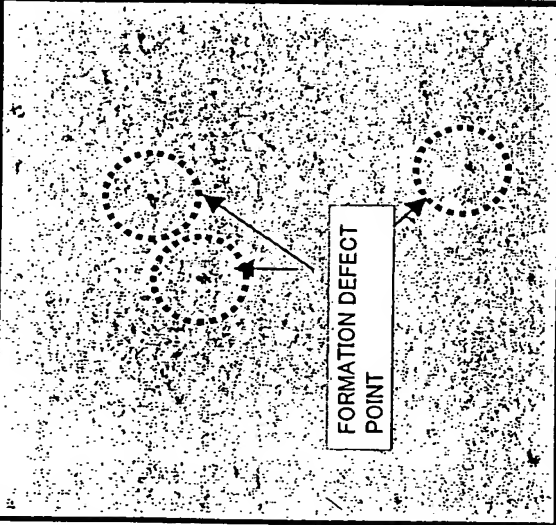
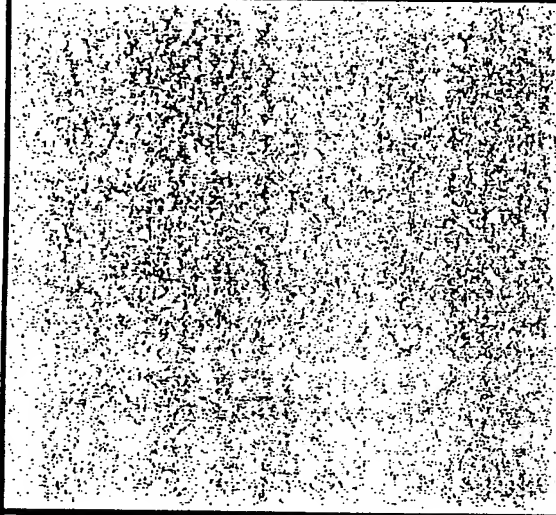
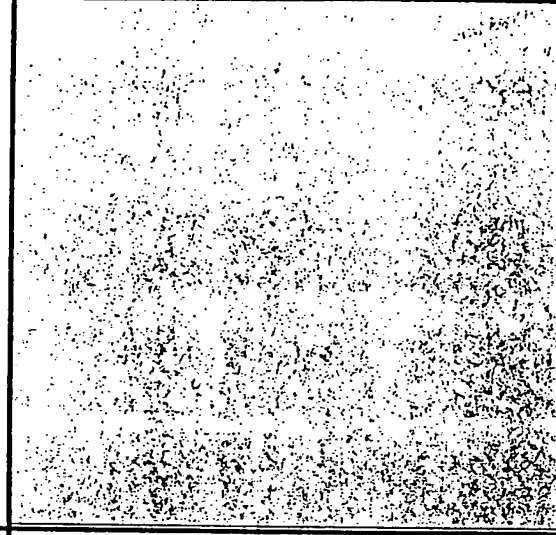
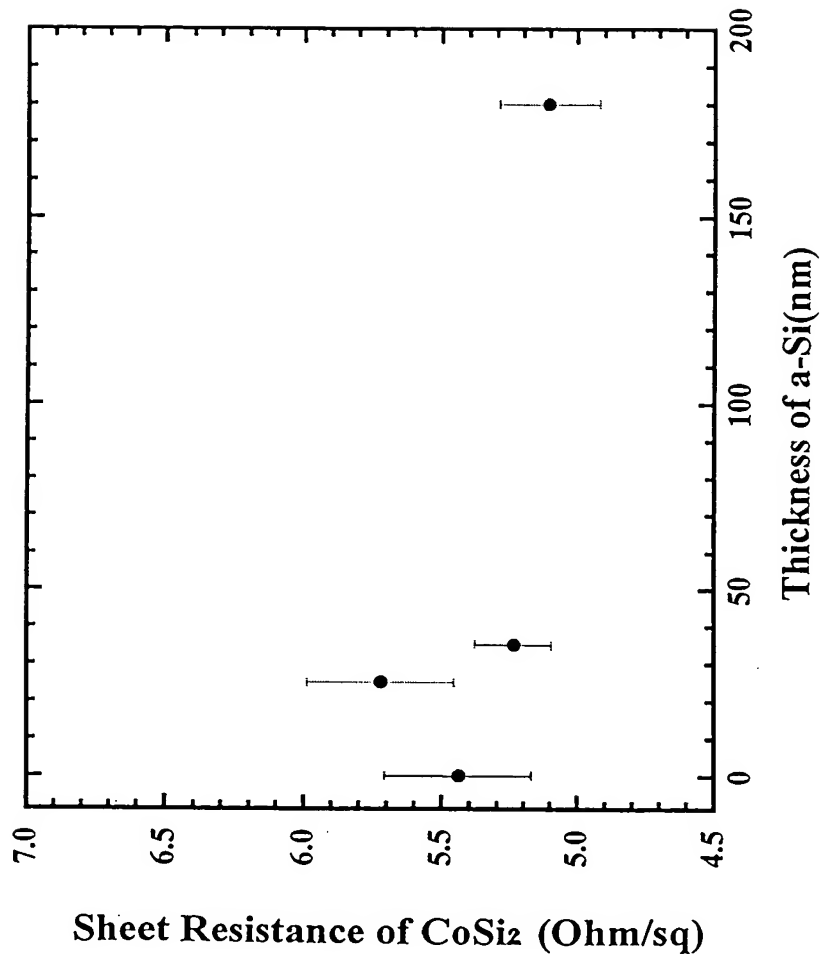
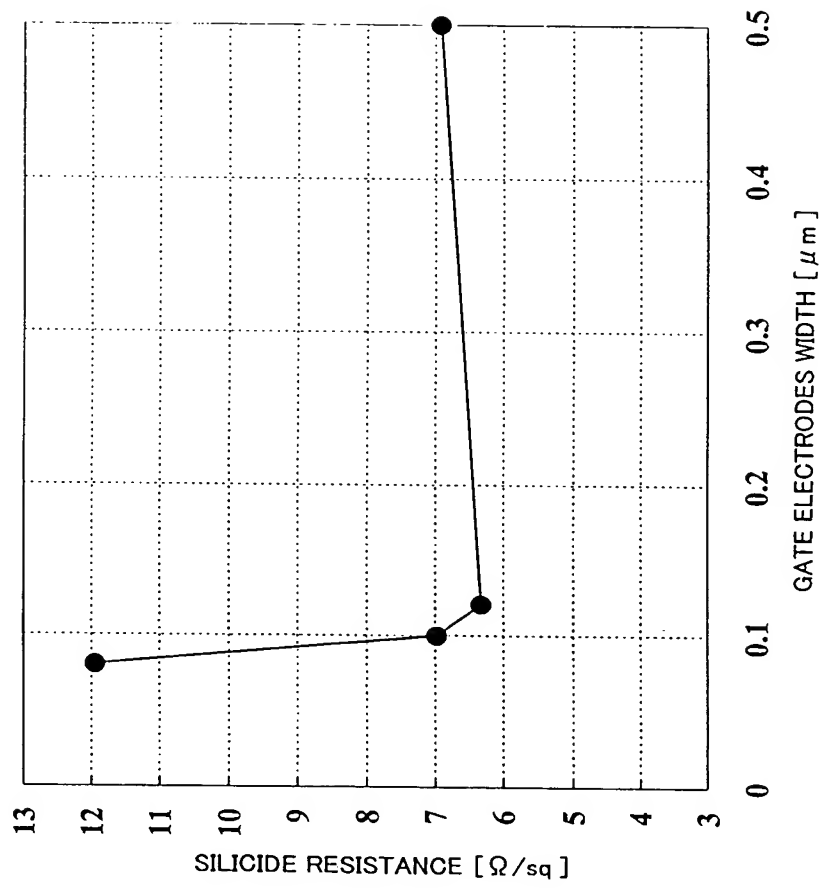
	CASE OF SINGLE-LAYER POLYCRYSTALLINE SILICON FILM	CASE OF TWO-LAYER POLYCRYSTALLINE SILICON FILMS (a-Si THICKNESS: 25nm)	CASE OF TWO-LAYER POLYCRYSTALLINE SILICON FILMS (a-Si THICKNESS: 35nm)	
	NSD-P+	PSD-B+	PSD-B+	
				

FIG. 11



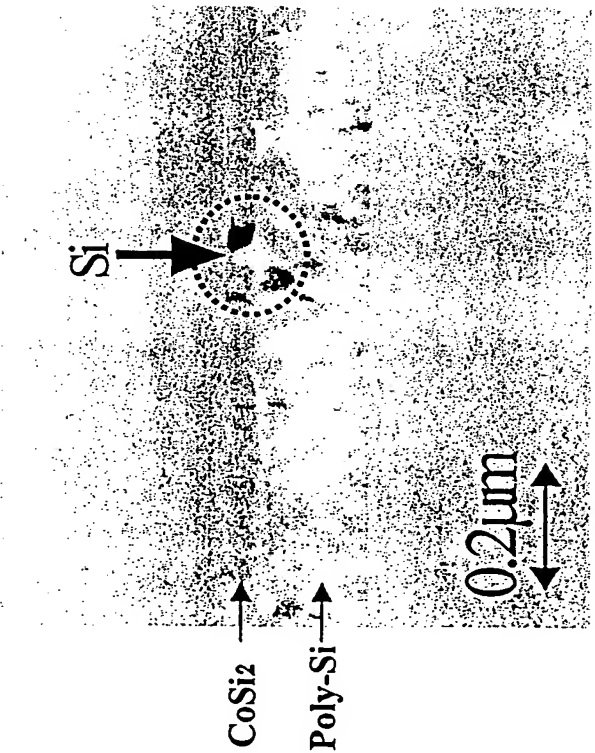
<DEPENDENCE OF SILICIDE RESISTANCE ON FILM THICKNESS OF AMORPHOUS SILICON FILM>

FIG. 12



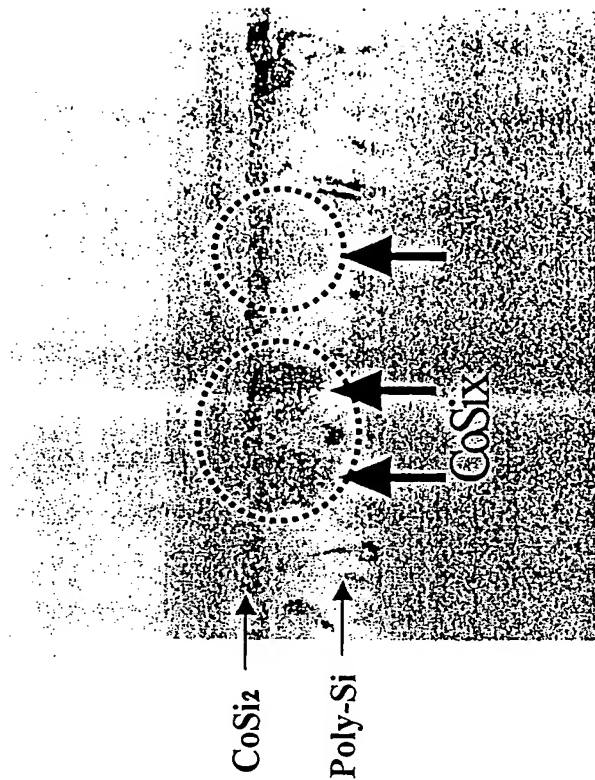
<DEPENDENCE OF COBALT SILICIDE RESISTANCE ON WIDTH OF WIRE>

FIG. 13



< PHOTOGRAPH OF CROSS SECTION OF CoSi_2
FORMATION DEFECT POINT >

FIG. 14



< OVER SILICIDIZATION REACTION POINT EXAMINED IN
PHOTOGRAPH OF CROSS SECTION >